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ABSTRACT

Project BEAM UP provides instructional and supportive services to 233 Hispanic and Haitian students (Grandes 9-12) of limited English proficiency (LEP) at Sarah J. Hale High School in Brooklyn, New York. The project's main objective is to enable LEP students to participate in mainstream content-area classes by as early as the middle of their junior year. Electing to take courses in either an academic or vocational track, all students receive instruction in English as a Second Language, English and native arts, bilingual content-area classes, and mainstream content-area classes. Quantitative analysis of student achievement data during the project's first year indicates that most students showed significant gains in language skills, both English and native, and they achieved high passing rates in vocational subjects. Program students' passing rates in mathematics were not significantly higher than those from mainstream students, but they surpassed mainstream students' performance in social studies courses. The following recommendations are suggested for program improvement: (1) formulate a policy for teaching Haitian Creole and French that considers both the students' level of proficiency and state foreign language requirements; (2) supplement the teaching of Haitian Creole with intensive instruction in Creole writing; (3) attempt to acquire materials in Haitian Creole for classroom use; (4) provide staff development activities to improve teachers' skills in Creole writing; and (5) increase paraprofessional's contributions to individualizing instruction. (KH)

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SARAH J. HALE HIGH SCHOOL

PROJECT BEAM UP

1983-1984

OEA Evaluation Report

O.E.A. Evaluation Section Report

Robert Tobias, Administrator of Evaluation
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Grant Number: G00-830-3738

SARAH J. HALE HIGH SCHOOL

PROJECT BEAM UP

1983-1984

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Mr. Bernard Wolinez

Project Director:
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A SUMMARY OF THE REPORT

In its first year of operation, this program was an effective successor to a previous bilingual program at Sarah Hale, Project BECOME. It offered a wide selection of English as a second language (E.S.L.), English language arts, native language arts, and bilingually-taught content-area classes which corresponded with proposed student achievement objectives. The program served 233 Spanish- and Haitian Creole-speaking students of limited English proficiency (LEP) in grades nine through twelve. Approximately half of the project students were born in Haiti. The other 50 percent were native speakers of Spanish, whose main countries of origin were Puerto Rico, the Dominican Republic, and Panama.

Project BEAM UP's main objective was to help LEP students improve their English language skills so they could participate in mainstream content-area classes by the middle of their junior year or the beginning of their senior year. Electing to take courses in either an academic track or a vocational track, all students received instruction in English as a second language (E.S.L.), English language arts, native language arts, bilingual content-area classes, and mainstream content-area classes.

Title VII funds supported administrative and support services staff; instructional positions were supported by tax-levy funds. Supportive services to program students included a bilingual grade advisor and a family assistant. Staff development activities consisted of monthly departmental staff meetings and university courses.

Program objectives were assessed in English language development (Criterion Referenced English Syntax Test [CREST] and the Test of Proficiency in English Language Skills); mastery of the native language (Prueba de Lectura and Test de Lecture); mathematics, science, and social studies (teacher-made tests); basic skills in career areas (for those students electing the vocational track); and attendance (school and program records). Quantitative analysis of student achievement data indicates that:

--Overall, the project achieved its revised objective of mastering an average of one CREST objective per month of instruction.

--Students showed statistically significant gains in English language skills.

--All project students (except for twelfth-grade Haitian students) demonstrated statistically significant gains in native language achievement.

--The passing rates of project students in mathematics and science were not significantly higher than those for mainstream students. However, program students surpassed the performance of mainstream students in social studies courses.

--Project students achieved high passing rates in vocational subjects which ranged from 82 percent in spring health careers courses to 96 percent in fall business classes.

--The overall program attendance rate surpassed that of the school as a whole.

The following recommendations are aimed at improving the overall effectiveness of the program:

--formulating a policy for teaching Haitian Creole and French that considers both the students' level of proficiency in these languages and the fulfillment of New York State foreign language requirements;

--supplementing the teaching of Haitian Creole with intensive instruction in Creole writing;

--acquiring materials in Haitian Creole for classroom use;

--providing staff development activities for teachers and paraprofessionals teaching in Creole to develop their skills in Creole writing; and

--encouraging the use of paraprofessionals to assist students in the classroom.

ACKNOWLEDGEMENTS

The production of this report, as of all Office of Educational Assessment Bilingual Education Evaluation Unit reports, is the result of a cooperative effort of regular staff and consultants. In addition to those whose names appear on the cover, Margaret Scorza has reviewed and corrected reports, coordinated the editing and production process, and contributed to the quality of the work in innumerable ways. She has been assisted by Ida Heyman, who has interpreted findings and integrated material into reports. Barbara Shore has written report summaries. Patricia Fitzpatrick has spent many hours creating, correcting, and maintaining data files. Finally, Joseph Rivera has worked intensively to produce, correct, duplicate, and disseminate reports. Without their able and faithful participation, the unit could not have handled such a large volume of work and still produced quality evaluation reports.

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PROJECT BEAM UP

AT SARAH J. HALE HIGH SCHOOL

Location:	345 Dean Street Brooklyn, New York
Year of Operation:	1983-84, First year of a three-year funding cycle
Target Languages:	French, Haitian Creole, Spanish
Target Population:	233 students of limited English proficiency
Principal:	Bernard Wolinez
Project Director:	Alba Del Valle

I. OVERVIEW

Project BEAM UP provides instructional and supportive services to 233 Hispanic and Haitian students of limited English proficiency (LEP) at Sarah J. Hale High School. It is essentially a continuation of Project BECOME, a federally funded bilingual program which served a similar population of students from 1980 to 1983. The purpose of the current program is to help LEP students improve their English language skills so that they can participate in mainstream content-area classes by the middle of their junior year or the beginning of their senior year. Additionally, Project BEAM UP strives to help these students develop their native language skills and enhance their self image.

Project BEAM UP was implemented in September, 1983. Project students participate in an eight-period day, from about 8:20 a.m. to 2:30 p.m., and can elect to take courses in either an academic track or a vocational (career) track. If they opt for the latter, they receive increasing

amounts of instruction in career subjects over the first two years in order to qualify for entry into one of three career options available at Sarah J. Hale: word processing, unisex hairstyling, and medical office assisting.

Project students in both the academic and vocational tracks receive instruction in the following areas:

- English as a Second Language (E.S.L.). All project students participate in E.S.L. classes ranging in levels from beginning to advanced. Students are placed in these classes according to their level of ability in English.

- English language arts. In addition to E.S.L. classes, project students participate in English reading classes designed to provide additional work in English language skills. These are regarded as transitional classes, and separate classes are provided for Haitian and Hispanic students.

- Native language arts. Hispanic and Haitian students also receive instruction in their native language in order to improve their grammar and vocabulary skills.

- Bilingual content-area classes. Project students receive bilingual instruction in the content-areas that are required by New York State in order to receive a diploma. These classes are on the same level as those taught in English to mainstream students.

- Mainstream classes. In order to enhance their English language skills and ease the transition into mainstream content-area classes, project students participate in such mainstream classes as physical education, music, and art.

Project BEAM UP is coordinated by a full-time project director funded by Title VII, who reports to the school principal. Other Title VII staff members include: a curriculum and testing coordinator, a bilingual grade advisor, a family assistant, and a bilingual secretary.

Tax-levy funds support teachers of E.S.L., English language reading, native language arts, bilingual content-area courses, and vocational courses.

II. STUDENT CHARACTERISTICS

SCHOOL AS A WHOLE

Sarah J. Hale High School is located a few blocks from the Fulton Street shopping area in downtown Brooklyn. The immediate vicinity of the school consists of three- and four-story residences, some of which are in disrepair and others in the process of being renovated, and small factories, some abandoned and others in operation. Most area residents are working class and most are black Americans, Haitians, and Hispanics, with a sizeable Middle Eastern community located to the west, along Atlantic Avenue.

The school consists of a four-story main building where most classes are held and a west wing which houses most of the bilingual classes. The majority of its students in 1983-84 are blacks and Hispanics, as shown in Table 1. The number of American blacks attending Hale has decreased substantially in recent years, while the Haitian population has steadily increased. The Hispanic population has remained relatively stable. Non-Hispanic white students and Middle Eastern students on the whole have not chosen to attend Hale.

In 1983-84, 98 percent of the students were eligible to receive free lunch. Of the total number of students tested, about 83 percent were below grade level in reading and about 90 percent were below grade level in mathematics.

The home language of the students in the school are indicated in Table 2.

TABLE 1

Ethnic Composition of the Student Population at Sarah J. Hale in 1983-84[a]

Ethnicity/Race	1983-84 Number	Percent
Black	1,171	52
Hispanic	872	38
White	113	5
Haitian	112	5
TOTAL	2,268	100

[a]Source. Project Director

TABLE 2

Home Languages of Sarah J. Hale Students in 1983-84[a]

Language	Number of Students	Percent Total Enrollment	Percent LEP
English	1,278	56	0
Spanish	872	38	12
French/Haitian Creole	112	5	100
Arabic	4	less than 1	50
Portuguese	2	less than 1	50

[a]Source. Project Director

Sarah J. Hale was a vocational-technical school serving only female students until ten years ago, when male students were admitted and academic and vocational offerings were expanded. However, the majority of students are still female, and about 90 percent of all students are enrolled in the vocational program.

PROJECT STUDENTS

Although initial bilingual efforts at Sarah J. Hale were aimed exclusively at Hispanic LEP students, Project BEAM UP's predecessor, Project BECOME, extended its focus to include Haitians. During the period of that program, the number of Haitians served increased steadily until they had nearly reached parity with the Hispanics. In the first year of Project BEAM UP, the Hispanic component and the Haitian component were similar in size.

Students who score below the twenty-first percentile on the Language Assessment Battery (LAB) are eligible for the project. In addition, in 1983-84, several students who scored at or above the twenty-first perentile were included by parent request.

Table 3 presents the project students by country of birth. Two-fifths of the Spanish-speaking students were from Puerto Rico, and one-third were from the Dominican Republic or Panama. None of the students were born on the U.S. mainland, and most of them entered high school from their country of origin rather than from a junior high school in the United States. This is particularly true of the Haitian students, almost all of whom came to this country in the last two years.

The educational background and language proficiency of the students

varied considerably. Some had received an education that was roughly equivalent to that of non-LEP students, while others -- particularly Haitian students from rural areas -- had received little schooling and were functionally or totally illiterate. In a number of cases, students' schooling had been interrupted frequently because of the mobility of their parents.

Because of their varied educational experience, most of the project students were overage for their grade (see Table 4). Of the 66 students in the eleventh grade, nearly 75 percent were overage. The twelfth grade had the smallest percentage of overage students.

The ratio of female to male students in Project BEAM UP (see Table 5) reflects that found in the school at large. Females outnumbered males in all grades by about a 3 to 2 ratio. Most of the students had been in the project for one academic year (see Table 6).

TABLE 3

Number and Percent of Project Students by Country of Birth[a]

Country of Birth	Number	Percent of Language Group
Puerto Rico	47	41
Dominican Republic	25	22
Mexico	1	less than 1
Honduras	5	4
Guatemala	5	4
Costa Rica	1	less than 1
El Salvador	4	3
Nicaragua	3	3
Panama	14	12
Colombia	2	2
Ecuador	6	5
Chile	2	2
Portugal	1	less than 1
Total Hispanic	116	100
Total Haitian	117	100
TOTAL	233	

[a]Source. Student Information Forms submitted by project.

- Approximately half of the project students were born in Haiti and are native speakers of French or Haitian Creole.
- The other 50 percent of the students are native speakers of Spanish. The main countries of origin are Puerto Rico and the Dominican Republic.

TABLE 4

Number of Project Students by Age and Grade[a]

Age	Grade 9	Grade 10	Grade 11	Grade 12	Total
13	1	0	0	0	1
14	3	2	0	0	4
15	11	9	0	0	20
16	16	11	4	1	32
17	9	9	13	6	37
18	4	17	13	13	47
19	3	9	18	17	47
20	1	4	15	9	29
21	0	1	2	1	4
22	0	0	1	0	1
TOTAL	47	62	66	47	222
Overage Students					
Number	33	40	49	27	149
Percent	70.2	63.5	74.2	57.4	66.8

[a]Source. Students Information Forms submitted by project.

Note. Shaded boxes indicate expected age range for grade.

- The majority (67 percent) of all project students are overage for their grade.
- The highest percentage of overage students is in grade eleven (74 percent).

TABLE 5

Number and Percent of Project Students by Sex and Grade[a]

Grade	Number Male Students	Percent of Grade	Number Female Students	Percent of Grade	Total Number	Percent of All Students
9	21	45	26	55	47	21
10	24	38	39	62	63	28
11	27	41	39	59	66	30
12	15	32	32	68	47	21
TOTAL	87	39[b]	136	61[b]	223	100

[a]Source. Student Information Forms submitted by project.

[b]Percent of program students.

- The majority of project students are female (61 percent). Female students outnumber males in all grades.
- The highest number of students is in the eleventh grade.

TABLE 6

Time Spent in the Bilingual Project[a]

(As of June, 1984)

Time Spent in Bilingual Project	Number of Students[b]				
	Grade 9	Grade 10	Grade 11	Grade 12	Total
<1 Academic Year	5	12	9	2	28
1 Academic Year	46	52	58	46	202
TOTAL	51	64	67	48	230

[a]Rounded to the nearest year.

[b]Source. Student Information Forms submitted by project.

- Most students reported were in the project for one year.
- Twenty-eight students entered the project at various times during the academic year.

III. FINDINGS

The evaluation findings for the 1983-84 academic year include both objectives measured by standardized test results, and those based on examination of program materials and records, site visits, and interviews with relevant personnel. Following are the findings presented by objectives as proposed to and accepted by the Office of Bilingual Education and Minority Languages Affairs, U.S. Department of Education.

ENGLISH AS A SECOND LANGUAGE

E.S.L. Program

--It is expected that the mean posttest score achieved by project students on the Criterion Referenced English Syntax Test will surpass that of a control group (a stratified random sample of comparable citywide eligible students not receiving bilingual instruction in subject matter) at the .05 level of statistical significance when results are submitted to an analysis of covariance.

Three levels of E.S.L. instruction are offered at Sarah J. Hale: elementary, intermediate, and advanced. The elementary classes meet for a double period five times a week; the intermediate and advanced classes meet daily for a single period. The emphasis is on aural comprehension and speaking, although written work is incorporated into classes, especially once students get beyond the elementary level. All project students are placed in an E.S.L. class in accordance with their English proficiency as measured by the Criterion Referenced English Syntax Test (CREST). Both Haitian and Hispanic students participate in these classes, which are exclusively for project students. During both semesters, there were four classes of basic E.S.L. meeting for a double period each day, three classes of intermediate E.S.L. and two classes of advanced E.S.L. meeting for a period daily. Paraprofessional assistance

assistance was available in all classes, and curriculum materials provided by New York City and New York State were used.

Student Achievement in E.S.L.

Since no stratified random sample data were available, the objective in this area was modified in consultation with the project director to conform with the citywide guidelines for E.S.L. achievement: the mastery of one objective per month on the Criterion Referenced English Syntax Test (CREST). The CREST was developed by the New York City Public Schools to measure mastery of instructional objectives of the E.S.L. curricula. There are four items for each objective, and mastery of an objective is achieved when three of the items are answered correctly. The test has three levels: beginning (I), intermediate (II), and advanced (III). The maximum score on Levels I and II is 25, while the maximum score on Level III is 15.

Mean differences between pretest and posttest are computed to represent the gain score, and the number of objectives mastered per month is computed by dividing the gain score by months of instruction. Extensive information on CREST objectives and psychometric properties is found in the Technical Manual, New York City English as a Second Language Criterion Referenced English Syntax Test.*

The CREST was administered at the beginning and end of both the fall and spring semesters. Table 7 presents the tests results for students who were pretested and posttested with the same test level each semester.

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*Board of Education of the City of New York, Division of High Schools, 1978.

Overall, the criterion applied, one CREST objective per month of treatment, was achieved. Data were available for 117 students in the fall semester and for 96 students in the spring. Examination of Table 7 shows that in the fall, student mastered an average of approximately two CREST objectives per month and an average of 1.7 CREST objectives per month in the spring.

Students tested at Level III had lower performance rates than those tested at lower levels, partly because mastery of objectives appears to take longer at that level.

TABLE 7

Results of the Criterion Referenced English Syntax Test

(Program Students Pretested and Posttested on Same Test Level)

Test Level	Number of Students	Average Number of Objectives Mastered Pre	Post	Objectives Mastered*	Average Months of Treatment	Objectives Mastered Per Month
			Fall			
I	42	8.0	15.6	7.6	3.0	2.5
II	46	8.9	14.8	5.9	2.9	2.0
III	29	7.2	11.2	4.0	3.1	1.3
TOTAL	117	8.2	14.2	6.0	3.0	2.0
			Spring			
I	31	9.5	15.6	6.1	3.0	2.0
II	41	12.4	18.3	5.9	2.9	2.0
III	24	8.6	11.0	2.4	3.0	0.8
TOTAL	96	10.5	15.6	5.1	3.6	1.7

*Posttest minus pretest.

•The objective of mastering one objective per month of instruction was surpassed by all groups in the fall and by Level I and II students in the spring.

English Language Arts Program

--It is expected that the mean posttest reading score achieved by project students on the Test of Proficiency in English Language Skills will surpass that of a control group at the .05 level of statistical significance when results are submitted to an analysis of covariance.

In addition to taking E.S.L. classes, project students take English reading classes that offer credit and provide further intensive work in English language skills. Haitian and Hispanic students were separated in these courses because a cultural component as well as language skills was provided. In addition, it was reported that the English language skills of the Haitian students varied more widely than those of the Hispanic students because of the greater range of Haitian students' educational background, and that more individual assistance was required. In the fall, Hispanic and Haitian students were offered two sections each, and in the spring, Hispanic students were offered one section and Haitian students were offered two sections. The average registers in the fall were slightly higher than in the spring, and only the fall classes for Haitian students had a paraprofessional. Materials used were teacher-made.

Student Achievement in English Reading

The program proposed that the mean posttest reading score of project students would surpass that of the control group at the .05 level of statistical significance. Since data for the control group were not provided, the objective was modified in consultation with the project director to propose that the project students would score significantly higher on posttest than on pretest.

Students' scores on the New York City Reading Test were used in lieu of the Test of Proficiency in English Language Skills. This test was administered in the fall and again in spring. The pretest and posttest raw score means and standard deviations are presented in Table 8. Data were available for 206 students (88 percent of the total). Statistical significance was determined through the application of the correlated t-test model to demonstrate whether the difference between pretest and posttest mean scores is larger than would be expected by chance variation alone. Students showed statistically significant ($p<.01$) gains in English proficiency scores from pretest to posttest at all grades. The project objective, as revised, was thus met.

Another index of improvement, the effect size (E.S.) was computed by dividing the mean differences by the standard deviation of the differences, and a change of 0.5 standard deviations or higher is generally considered to be a meaningful change. The large effect sizes confirm the meaningfulness of the findings.

TABLE 8

English Reading Achievement

Significance of Mean Total Raw Score Differences Between Initial and Final Test Scores of Program Students with Full Instructional Treatment on the New York City Reading Test, by Grade

		Pretest		Posttest			
Grade	N	Mean	Standard Deviation	Mean	Standard Deviation	Mean Difference	Effect Size
9	44	61.0	6.4	66.4	6.0	5.4**	2.0
10	58	67.3	7.5	73.2	6.1	5.9**	2.2
11	64	65.7	5.9	71.4	6.4	5.7**	1.6
12	40	64.0	7.7	69.5	7.4	5.5**	1.3

**Statistically significant at the .01 level.

•Students at all grade levels showed statistically significant gains.

LANGUAGE ARTS PROGRAM - SPANISH AND FRENCH/HAITIAN CREOLE

-- It is expected that the mean posttest reading score achieved by project students on the Prueba de Lectura/Test de Lecture will surpass that of the control group at the .05 level of statistical significance when results are submitted to an analysis of covariance.

In addition to receiving instruction in English language arts, project students are given instruction to improve their competency in their native language. Both Haitain and Hispanic students receive three levels of instruction: beginning, intermediate, and advanced. In addition, Spanish-speaking program students are offered an advanced literature course. In 1983-84, all classes had an average register of 35 students and met daily.

There is an apparent contradiction between some students' language backgrounds and the desire of the school that students meet foreign language requirements as specified by the State Education Department. Since there is currently no examination nor accreditation for Haitian Creole, the administration has Haitian students fulfill New York State foreign language requirements by passing the state French examination. Programmatically, the result has been that French is taught in the native language arts course in the Haitian component. The project administration's view that French should be taught as the native language course does not coincide with that of several students who, in interviews with a member of the evaluation team, identified Haitian Creole as the language spoken in their homes and viewed French as a foreign language.

Perhaps this linguistic situation can explain the project director's report that the Hispanic students are slightly below grade level in their native language, while the Haitian students are three years below grade level (see Chapter IV. Conclusions and Recommendations).

Student Achievement in Native Language Arts

The assessment instrument used to measure gains in Spanish was the Prueba de Lectura, Level II. The Prueba de Lectura is part of the Interamerican Series of Tests. The purpose of this series is to evaluate achievement in Spanish for Spanish speakers from the western hemisphere. Gains in French were measured by the Test de Lecture, Level II. Information on the Test de Lecture can be obtained from Science Research Associates (S.R.A.).

The program proposed that the mean posttest reading score of program students would surpass that of the control group at the .05 level of statistical significance. Since this analysis was not appropriate given the lack of data for a control group, the objective was modified to compare project students' pretest and posttest scores using the correlated t-test model with the expectation that students would score significantly higher on the posttest.

These tests were administered in December and again in June. The pretest and posttest raw score means and standard deviations are presented in Tables 9 and 10. Statistical significance was determined through the application of the correlated t-test model to demonstrate whether the difference between pretest and posttest mean scores is larger than would be expected by chance variation alone.

As can be seen in Tables 9 and 10, the posttest means were found to be significantly greater statistically than the pretest means for students in both language groups at all grades.

The significance of gains achieved by these students is further emphasized by the effect sizes, which were very high, ranging from 0.8 to 2.6. Overall, the program objective, as revised, was achieved.

TABLE 9

Native Language Reading Achievement

Significance of Mean Total Raw Score Differences Between Initial and Final Test Scores of Hispanic Students with Full Instructional Treatment on the Prueba de Lectura, Level II, by Grade

		Pretest		Posttest			
Grade	N	Mean	Standard Deviation	Mean	Standard Deviation	Mean Difference	Effect Size
9	20	68.7	4.5	72.6	4.1	3.9**	1.3
10	26	77.5	6.5	84.5	6.7	7.0**	2.0
11	23	72.5	5.4	77.8	6.2	5.3**	2.6
12	30	74.9	9.7	79.6	9.2	4.6**	0.8

**Statistically significant at the .01 level.

•Students at all grade levels demonstrated statistically significant gains.

TABLE 10

Native Language Reading Achievement

Significance of Mean Total Raw Score Differences Between Initial and Final Test Scores of Haitian Students with Full Instructional Treatment on the Test de Lecture, Level II, by Grade

		Pretest		Posttest			
Grade	N	Mean	Standard Deviation	Mean	Standard Deviation	Mean Difference	Effect Size
9	24	69.4	5.6	74.1	6.7	4.7**	2.5
10	33	85.6	8.4	89.9	7.5	4.3**	1.8
11	40	74.4	12.0	79.7	10.2	5.2**	1.4
12	10	88.0	5.8	91.0	4.9	3.0**	2.0

**Statistically significant at the .01 level.

•Students at all grade levels demonstrated statistically significant gains.

CONTENT-AREA SUBJECTS

-- At the end of the school year, significantly more of the project students will pass teacher-made tests in mathematics, social studies, and science than those not engaged in the project.

Bilingual content-area classes provide project students with content and skills that will prepare them to pass standardized tests and assist them in making the transition to academic mainstream courses.

Seven content-area classes were offered to Spanish-speaking students in the fall, and eight in the spring. These included fundamental mathematics, algebra, general science, biology, global studies, American studies, and economics. All of these classes had an average register of 35 students, took place for one period daily, and in the fall, included the services of a paraprofessional assistant. Ninety-five percent of the materials used were in Spanish.

Five content-area classes were offered bilingually in French for the Haitian population. These courses included fundamental mathematics, general science, global studies, American studies, and economics. The average register in these classes was 40 students during the fall, but dropped to 35 during the spring. About 50 percent of the materials used in these classes were in French. When asked about these materials, the principal deplored the inadequacy of standard French materials from France or Quebec, and made no reference to materials written in Haitian Creole.

One member of the evaluation team visited the economics class provided to Haitian students in the spring. There were 24 girls and 14 boys in the class, all relatively quiet and well-behaved and seeming to

have good rapport with the teacher. The expressed objective of the class was "helping the consumer to invest and save." The teacher addressed the class using a mixture of English and Creole; the few students who asked and answered questions spoke in Creole, while the rest of the students were "painfully" trying to copy in English some notes written on the blackboard.

The Haitian teacher reported that the students find the use of Creole "perfectly acceptable and normal," and that they have reacted to his trying to speak French with them a few times as "something strange, unnatural and funny." It was also reported that there is a very competent and devoted paraprofessional available for the content areas, but that he is primarily used for clerical work outside the classroom.

Student Achievement in Mathematics, Science, and Social Studies

The program called for a comparison of passing rates in mathematics, science, and social studies courses between bilingual and mainstream students. It was proposed that program students would perform better than those not exposed to the program. The statistical method used to test this hypothesis was a z-test for the difference between two independent proportions. As mainstream data were available only for the spring semester, Table 11 presents students' performance in mathematics, science, and social studies courses for the spring only. Also included in the table are z-values, which indicate whether differences between the passing rates for the two groups are statistically significant.

Program students' performance did not surpass mainstream performance in math and science although the differences in passing rates were not statistically significant. On the other hand, program students performed

better than mainstream students in social studies and the difference in passing rates was statistically significant. The program objective, as proposed, was not met in math and science, but was met in social studies.

To illustrate yearly performance of program students in content areas, their passing scores on teacher-made tests are presented in Table 12 by grade and semester. Overall passing rates were higher in the fall than in the spring, except in social studies classes. In mathematics, the passing rates were 71 percent in the fall and 60 percent in the spring. In science, the overall passing rates were 86 percent in fall and 77 percent in spring. Students enrolled in social studies courses increased their passing scores from 66 percent in the fall to 70 percent in the spring semester.

TABLE 11

A Comparison of the Passing Rates of Project and Mainstream Students in Content-Area Courses, Spring

	Project Students		Mainstream Students		
Course	N	Percent Passing	N	Percent Passing	z-value for the Difference
Mathematics	56	80.4	335	84.2	-0.73
Science	15	93.4	34	94.1	-0.09
Social Studies	64	76.6	574	43.0	6.73

- Program students had lower passing rates than mainstream students in math and science, and higher passing rates in social studies.
- The difference in passing rates between project and mainstream students in social studies courses was statistically significant and not significant in math and science.

TABLE 12

Number of Program Students Attending Courses and Percent Passing Teacher-Made Examinations in Content-Area Subjects

Course[a]	Grade 9 N	Grade 9 % Passing	Grade 10 N	Grade 10 % Passing	Grade 11 N	Grade 11 % Passing	Grade 12 N	Grade 12 % Passing	Total N	Total % Passing
				Fall						
Mathematics	41	58.5	54	66.7	48	75.0	33	84.8	176	70.5
Science	34	76.5	36	91.7	41	82.9	28	92.9	139	85.6
Social Studies	35	51.4	36	80.6	57	52.6	29	89.7	157	65.6
				Spring						
Mathematics	38	65.8	55	56.4	54	59.3	30	60.0	177	59.9
Science	38	84.2	44	79.5	51	64.7	22	86.4	155	76.8
Social Studies	43	69.8	57	75.4	62	66.1	29	69.0	191	70.2

[a]Mathematics courses range from pre-algebra to R.C.T. preparation and computer programming. Science ranges from general to Spanish high school equivalency in science. Social studies includes world geography/culture, world history, American history, and economics. In spring, it also includes American culture.

- Students' overall passing rates declined from fall to spring.
- The highest passing rates were achieved by students in science classes both semesters.

CAREER PROGRAM

-- At the end of the school year, significantly more of the project students will pass tests in the vocational areas of business education, cosmetology, and health careers than those not in the project.

One course in each of these career areas was offered to project students during the fall semester and again during the spring semester. Each course had an average register of 35 students and was taught for two hours daily, with paraprofessional assistance.

Student Achievement in Vocational Subjects

Table 13 shows the number and percent of project students passing teacher-made tests in business and health careers courses. The program had proposed a comparison of outcomes for mainstream and program students enrolled in these areas but mainstream students' data were not available. However, program students' performance in these areas was extremely high: business passing rates were 96 percent in the fall and 88 percent in the spring semester. Health careers students had a passing rate of 91 percent in the fall and 82 percent in spring.

TABLE 13

Number of Program Students Attending Courses and Percent Passing Teacher-Made Examinations in Vocational Subjects

Course[a]	Grade 9 N	Grade 9 % Passing	Grade 10 N	Grade 10 % Passing	Grade 11 N	Grade 11 % Passing	Grade 12 N	Grade 12 % Passing	Total N	Total % Passing
				Fall						
Business	8	100.0	12	100.0	12	83.3	14	100.0	46	95.7
Health Careers	17	70.6	18	100.0	16	100.0	23	91.3	74	90.5
Cosmetology	3	100.0	10	80.0	5	80.0	-	-	18	83.3
				Spring						
Business	9	77.8	24	100.0	12	66.7	19	89.5	64	87.5
Health Careers	9	88.9	2	50.0	16	75.0	24	87.5	74	82.4
Cosmetology	2	100.0	5	80.0	4	100.0	-	-	11	90.9

[a]Business courses include career orientation and other business electives. Health careers courses include hygiene/health education and health careers. Cosmetology includes cosmetology I and II.

- Overall passing rates in these courses were high -- over 82 percent both semesters.
- Tenth-grade business students (fall and spring) and tenth-grade health careers students (fall) achieved 100 percent passing rates.

ATTENDANCE

-- At the end of the school year, it will be demonstrated that the average monthly attendance of project students will exceed the average monthly attendance of the general school population.

Attendance rates for program students are presented in Table 14 by grade. The program attendance rate (96 percent) was 14 percentage points higher than the schoolwide attendance rate (82 percent). A z-test for the significance of a proportion indicated that the difference in attendance rates is statistically significant. Thus, although the program objective could not be measured on a monthly basis as proposed, the overall program attendance rate surpassed that of the school as a whole.

Table 14

Attendance Percentages of Project Students

Grade	Number of Students	Mean Percentage	Standard Deviation
9	47	94.5	9.9
10	60	94.8	6.2
11	68	96.9	5.2
12	42	96.5	2.5
Total	217	95.7	6.5

Schoolwide Attendance Rate = 82 percent z-value = 5.32

STAFF DEVELOPMENT ACTIVITIES

Although no specific objective was proposed for staff development, monthly staff meetings were held for all members of the bilingual department.

In addition, both professional and paraprofessional staff members have attended courses in computer science, biology, business administration, and bilingual education at Lehman College, New York City Technical College, and Medgar Evers College.

IV. CONCLUSIONS AND RECOMMENDATIONS

In its first year of operation, Project BEAM UP was an effective successor to Project BECOME. It offered a wide selection of E.S.L., English language arts, native language arts, and bilingually-taught content-area classes. The results of examinations in these areas corresponded with the revised student achievement objectives. On the CREST, students surpassed the criterion level in both the fall and spring by mastering more than one objective per month. On tests of English reading skills and native language arts, students' posttest scores were significantly higher than their pretest scores. Overall passing rates in mathematics courses in the fall and science and social studies classes in the fall and spring exceeded 65 percent, although they did not exceed mainstream rates in similar courses in math or science. They did, however, exceed mainstream performance in social studies. In business and vocational courses, overall passing rates exceeded 82 percent both semesters. Finally, the attendance rate of program students was significantly higher statistically than the school-wide rate. Students appeared eager to participate in class and seemed to have a good rapport with the project staff. In fact, the principal remarked that the high attendance of the Haitian students raises the attendance score of the entire school.

The academic conditions and linguistic situation of the Hispanic students seemed to be well understood by the project administration; there appeared, however, to be a discrepancy in perception of the Haitian students' native language skills and needs. Although the students themselves and some of the Haitian staff regarded Haitian

Creole as the students' native language, other staff members identified this native language as French, and the materials used in instruction were in French. This discrepancy needs to be resolved in order to provide these Haitian students with fully effective instruction.

The following recommendations are suggested for program improvement:

1. The project formulate a policy for teaching Haitian Creole and French that considers both the students' level of proficiency in these languages and the fullfillment of New York State foreign language requirements. The program might continue to offer French to those students who have reached a level of proficiency sufficient to pass the Regents examination. For students who are severely limited in French, the program might be of greater service by offering Haitian Creole -- their native language. The project's intent is to use and develop the native language to facilitate the acquisition of English. The instructional policy should aim at developing the skills that students bring and to enhance future opportunities. It should also avoid teaching the less academically prepared students two languages (French and English) that are new to them.

2. Supplement the teaching of and in Haitian Creole with intensive instruction in Creole writing.

3. Attempt to acquire materials in Haitian Creole for classroom use. The project might contact the Division of High Schools-Bilingual and E.S.L. Program Office to request curricula and materials in the content areas developed locally for Haitian high school students.

4. Provide staff development activities for teachers and paraprofessionals teaching in Creole to develop their skills in Creole writing.

5. Use paraprofessionals' skills as much as possible to assist students in the classroom and, thus, increase their contribution to individualizing instruction.